

CULTIVATION OF BER

Dr. P. K. Yadav
Professor and Head



TEXONOMY OF BER

Botanical name	–	Zizyphus mauritiana Zizyphus jujuba
Family	–	Rhamnacea
C. N.	-	2n = 24,36,48
O.	–	India to South western Asia
Fruit type	–	Drupe
Edible part	–	Pericarp

DISTRIBUTION

- Hishar, Rohtak, Panipat, Gurgaon, Haryana, Alwar, Bikaner, Jaipur, Chomu, Jodhpur in Rajasthan, Patiala in Punjab are major growing area in the country.
- In India :- Iran, Burma, Australia, USA, France, Italy.

Uses

- Fruit are use to prepare chutney, dried ber, murabba, jam, jelly & wine.
- The leaves are used as fodder for sheep, goats, cattle.
- The wood is used for making agriculture implements, tool handle, toys.

CLIMATE AND SOIL

- Ber grows under varying climatic conditions at elevations up to 1,000 m. above sea level.
- It can withstand extremely hot & dry climate but is susceptible to frost.
- High atmospheric humidity is not suitable for its cultivation.
- Annual rainfall is required-400mm.
- Ber grows on a wide range of soils-sandy, clay, saline and alkaline soils.
- Sandy loam soil with rich in organic matter is best suitable for its cultivation.
- PH of the soil – 7

VARIETIES

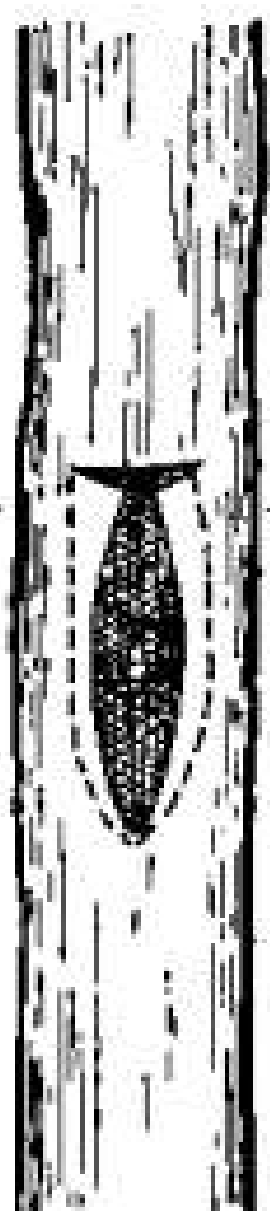
- Early maturing variety – Gola, sab, Sandhura
- Mid Variety – Banarsi, Mundia, Meharun, kaithali
- Late variety – Katha, Ajmeri, umran, Illaichi

Propagation Method

- Ber is propagated vegetatively by different methods of propagation like T or shield, Patch, Ring and, Flute budding.
- The best method of propagated in Ber 'I' or 'T' (shield) budding method.
- The bud sticks from the mother plant in collected and kept under polythene bag. The thickness of rootstock should be pencil like & healthy. A horizontal cut on the rootstock is given at about 15-20 cm height from ground level. A vertical cut about 2-3cm in given on the middle portion of horizontal cut. A single bud sticks is removed in the shape of shield or T about 1.25cm lower and 1.25-2.0cm above slanting cut. The bud is inserted in the T shape cut prepared on the rootstock and wrapped with polythene tape.

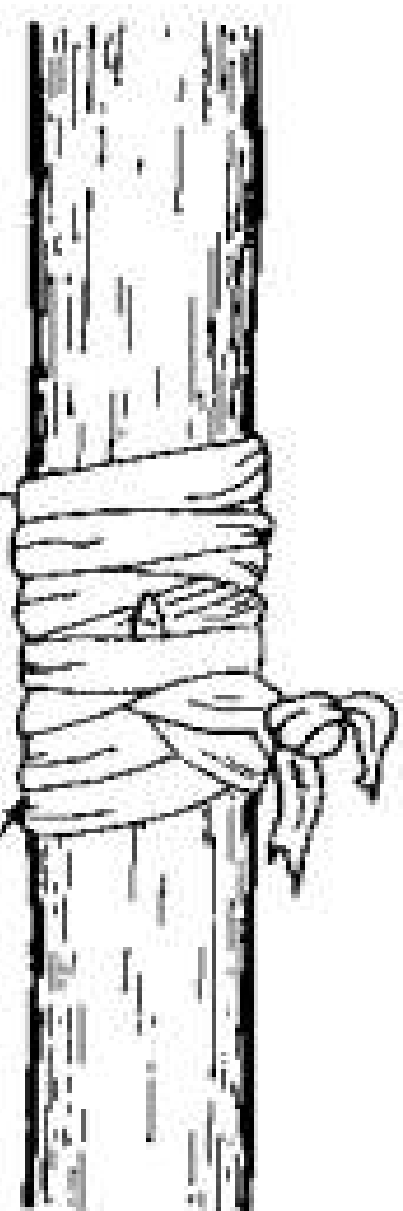


The shield piece is inserted by pushing it downward under the two flaps of bark



until the horizontal cuts on the shield and the stock are even.

The bud union is then tightly tied with some wrapping material.



Planting

➤ **The pit of 60cmx60cmx60cm are dug about a month before planting.**

Distance-7x7m.

The pit are refilled with top soil,25 kg FYM and about 100 gm BHC dust against to prevent termites.

Time-July-August

In irrigated area -January-March.

MANURE AND FERTILIZER

Age of trees years	FYM Kg/ha	N gm/ha	P gm/ha	K gm/ha
1	10	100	50	50
2	20	200	100	100
3	30	300	150	150
4	40	400	200	200
5	50	500	250	250

IRRIGATION

- Ber is very hardy plant with deep tap root system
- The mature tree requires very little irrigation.
- Irrigation applied between November & February when fruit are developed is effective to increase in size & improvement in quality.
- Young plant also need irrigation for establishment during the 1 to 3 years after plating.



INTERCULTURE

- Interculture should be done for suppressing growth of weed which cause nutrient losses & act as host for the disease.
- The tree basin should be free from weeds by weeding which also helps to reduce depletion of nutrients.
- Roots suckers should be removed when they germinate or sprout.

INTERCROPPING

- The inter space of ber plant can be utilized by raising leguminous & vegetable intercrop during the initial 3-4 years which can improve soil fertility & minimize soil erosion.
- Leguminous crop –green gram, cowpea, cluster beans.
- Vegetable crop-chilli,tomato,brinjal,okra ..

MULCHING

- In arid region of Rajasthan, water losses can be minimized by using of organic mulches like Kheep, Buhi, grass & inorganic mulches like polyethene. Black polythene mulch on the tree basin helps in conserving soil moisture & suppresses weed growth.

TRAINING & PRUNING

- For training, a main trunk is allowed to grow up to a height of 1 m. and 3 to 4 branches on main trunk are allowed to grow in different directions.
- The top is headed back to develop laterals and secondary branches.
- Pruning is done in the month of May – June.
- **Top working** – Trees are headed back up to 1 – 1.5 m. above from the ground level in the month of April – May. New branches emerge from pruned portions and budding should be done on the selected branches.

Flowering , Harvesting & Yield

- In north India, flowering is between September to November, in Maharashtra an early flowering between May and June.
- The peak flowering time in Rajasthan was found in September.
- **Harvesting**
- Ber matures 150 – 175 day after flowering
- The fruit are just mature and having shining yellow colour should be harvested.
- Fully mature fruit are harvested by picking in the forenoon time.
- The entire fruits of a tree require 5 or even more picking.
- **Yield** – Irrigated condition = 80 – 200 kg fruit/tree
- Rain fed condition = 50 – 80 kg fruit/tree

Storage

- The fruit can be stored 30 – 40 day at 30* C and 85 – 90 % R.H.
- Ber fruit can be stored for 10-12 days after packing in perforated polythene bags at room temperature.

Insect Name	Control
Fruit fly	Monocrotophos @ 0.05%
Bark eating caterpillar	Clean the hole & keep a cotton dip in kerosene
Disease Name	
Powdery mildew	Kerathane @ 0.2%
Ber rust	Bavistin @ 0.01%

THANK

YOU...